SIEMENS

Display

TD

Replacement of Parts

Display

18" TFT Color Monitor (EIZO R11)

Applicable for part no. 30 99 553

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Safety Information

Assuming a complete replacement, no contact points for line power, etc. are present.

NOTE

ARTD-002.732.17.. (Safety-technical Regulations for Installation and Repair) must be observed.

⚠WARNING

Certain components inside the units are under high voltage!

If there is contact with these components, it can cause damage, serious bodily injury or death.

- ➪ **Do not open the monitor housing; this is not necessary in a service situation.**

⚠WARNING

A damaged power cable can lead to fire or electric shock!

If these components are operated with a damaged power cable, it can cause damage, serious bodily injury or death.

- ➪ **Use only power cables that are in good condition! When unplugging the power connector, hold the power cable only by the connector.**

⚠WARNING

If objects are inserted into the housing, this can cause electrical shock.

This can cause damage to the unit, to other damage, serious bodily injury or death.

- ➪ **Do not insert objects into the housing!**

⚠WARNING

When handling connection cables, no contact with the patient may be made.

This can cause damage, serious bodily injury or death of the patient.

- ➪ **Do not connect the unit in the patient area!**

Monitor Remarks

- A laptop is not required for adjustment. All adjustments can be performed in an on-screen menu, accessible using the push-buttons (front of frame).
- Power switch:
  - The display has a power switch; seen from the front, this is located at the top left, behind the front frame.

LCD Monitor, 30 99 553

- The EIZO RadiForce R11 (model designation) is a high resolution 18" (46 cm) color display.
- OSD operation is performed using the push-buttons located on the front at the bottom right.

Fig. 1: EIZO RadiForce R11

Technical Data

Power Supply	Voltage range => 100V to 240V,+/-10% / 50/60Hz. Power consumption => max. 76 W
Inputs	2x DVI I (digital + analog)
Resolution	max. 1280 x 1024 (format filling)
Background Brightness	250 cd/m^2 max. Status when shipped: 200 cd/m^2.
Contrast Ratio	400:1 max.

Environment	**Transport and Storage (in original packaging):** Ambient temperature: -20 to +60ºC With no condensation. Relative humidity 30% to 80%, with no condensation. **Operation:** Ambient temperature + 0°C to + 35°C Relative humidity 30% to 80%, with no condensation.
Installation	Heat dissipation is achieved by “natural" convection; a fan is not installed. The free setup height as well as the side and rear distance must be at least 100 mm.
Weight	5.5 kg (without the base) 8.0 kg (with the base)

Pixel Defects:

Tab. 1 Pixel Defects

Pixel Defects (dot = subpixel)	**Maximum Number**
White	3
White and black	6
2 attached white	1
Pixel Errors (single pixels)	
Red	5
Green	5
Blue	5
White	5

Repair / Troubleshooting

In a malfunction situation, the display is only completely replaced.

NOTE

“Only” the display is available as a replacement part, no boards, etc.

For replacement part numbers, see the SPC (Spare Parts Catalogue).

To adapt to the particular system, see (System-related Settings / p. 15).

NOTE

Every defective monitor must be returned with an exact description of the malfunction. Without a description of the malfunction, it is virtually impossible to find sporadic and/or temperature-related effects or even system-related causes.

Test Equipment and Aids

- All required settings, see (System-related Settings / p. 15), must be performed using the push-buttons on the front of the unit.
- SMfit luminous density meter. See CB - DOC TD00-000.801.01... (Spare Parts Catalogue).

General Remark Regarding Use of the OSD Menu

TFT Monitor, Part No. 30 99 553

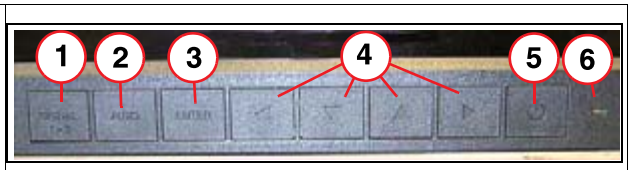

Fig. 2: EIZO push buttons

Pos. 1	Signal input
Pos. 2	Auto adjust
Pos. 3	Enter button
Pos. 4	Navigation button
Pos. 5	Power On/Off (software)
Pos. 6	Power LED

- All required adjustments are performed using the push-buttons that are accessible on the front.
- The push-buttons are blocked when shipped (new system). Unlocking or locking them is done as follows:

  Switch the monitor off using the Power On/Off button (Pos. 5).

  Press and hold the "**Auto**" button (Pos.2), switch on the monitor.
- **Pos. 3**

  Select the OSD main menu with the "**Enter**" button. Press the "Enter" button to accept the adjustment values.
- **Pos. 4**

  Select the desired sub-menu with the control buttons (right / left / top / bottom) and confirm with the "Enter" button. Changing the adjustment values is also performed using the control buttons.
- **Pos.5**

  The monitor can be switched On/Off using the power On/Off touch button. There is no cutoff from power with this button.

  To completely switch off the monitor, there is a power switch at the top left, behind the front frame.
- **Pos. 6**

  Operating display:

  - Green => switched on
  - Yellow => energy saving mode
  - Blinking yellow => energy saving mode, digital only.
  - Slowly blinking yellow => switched off, power switch on.

NOTE

All adjustments are performed in the “Screen Manager”. If the “Screen” menu (has other sub menus) and not the “Screen Manager” menu appears on the monitor, a switch to it can be made as follows:

=> from “Screen Manager” to “Screen” => 1x Enter

=> From “Screen” to “Screen Manager” => 2x Enter (double-click) to exit the menu and 1x Enter to reenter the “Screen Manager”.

Connections

Inputs:

- Pos. 1:

  Digital control is performed using one of the two DVI inputs.

  The TFT monitor can also be controlled analog using an adapter connector (D-sub to DVI).

- Pos. 2:

  The USB inputs/output are not used.

- Pos. 3:

  Power line connection

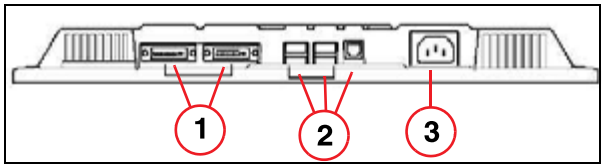

Fig. 3: EIZO R11 ports

Pos. 1	DVI I
Pos. 2	USB ports (not used)
Pos. 3	Power

- **General:**

  Every defective display must be replaced completely.

  Fuses:

  If a fuse is defective, the display must be replaced. A fuse responds only if there is an error (in the display). Because of this, replacing a fuse is not reasonable.

- **Troubleshooting:**

NOTE

- **If the monitor trolley is used, 2 TFT monitors are always used. Because of this, the TFT monitor controller can be replaced for troubleshooting.**
- **Prior to replacing one of the TFT monitors, a reset to the manufacturer settings as well as an auto adjustment should always be performed, see (Reset / Auto Adjust to the Manufacturer Settings / p. 15).**

Malfunction	Possible Cause	Solution
Monitor displays no image, power LED is off.	Power cable not plugged in or line power missing.	1. Make sure line power is present. 2. Switch off the TFT monitor, wait several minutes, switch it back on. 3. Replace the TFT monitor.
Monitor displays no image, yellow LED blinking.	TFT monitor is switched off (power switch is on).	1. Switch on the TFT monitor (front button).
Monitor displays no image, power LED is “yellow".	Standby mode.	1. Make sure that a video signal is present. 2. Replace the TFT monitor.
Unclear image, defects in vertical lines	Clock and/or phase incorrectly set. Disturbances in the video signal.	1. Set the clock / phase(Checking or Adjusting the Phase / Clock / p. 16). 2. Video signal is free of disturbances. 3. Replace the TFT monitor.

Malfunction	Possible Cause	Solution
Other malfunctions (sporadic)	Plug-in connection(s) loose.	1. Make sure that there is not a “control problem” (line power/video). 2. Replace the TFT monitor.
Can the required contrast no longer be achieved?	Analog: Video signal is too low.	1. Check the video signal (at least 600mV$_{BA}$). 2. Perform the H/C adjustment under (System-related Settings / p. 15). 3. Replace the TFT monitor.
B/W image is displayed in color.	Incorrect configuration in the Screen Manager.	Perform a reset to the manufacturer settings, see (Reset / Auto Adjust to the Manufacturer Settings / p. 15).
White / black image dots are visible.	Every panel can manifest “pixel defects". However, the pixel specifications, see (Technical Data / p. 5) must be maintained.	If the pixel specifications are maintained, the pixel defect must be accepted. If there are more error locations than specified, replace the TFT monitor.

ARCADIS Varic

The EIZO R11 TFT monitor is used “only" as a dual monitor on the monitor trolley.

Fig. 4: EIZO R11, monitor trolley

- Switch on the TFT monitor (power switch).
- Unplug the power cable (3/Fig. 5 / p. 14).
- Unplug the video connection, (2/Fig. 5 / p. 14).
- Remove the TFT monitor by removing the 4 mounting screws (1/Fig. 5 / p. 14).
- Install the replacement unit in the reverse sequence, check the settings under (SP Range => ARCADIS Systems / p. 15).

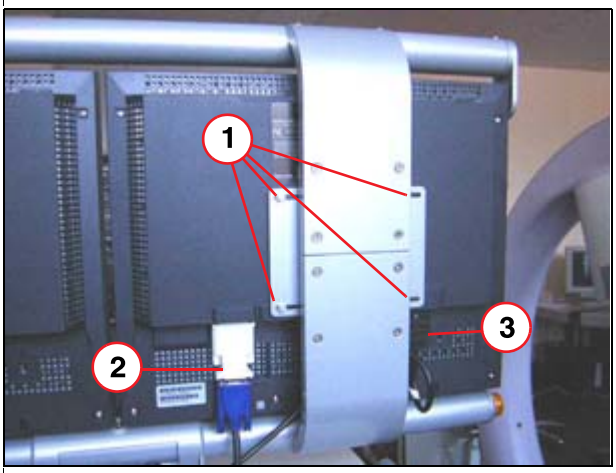

Fig. 5: EIZO R11 mounting

Pos. 1	VESA adapter
Pos. 2	DVI I connection
Pos. 3	Power connection

SP Range => ARCADIS Systems

General Information

NOTE

- **The TFT monitor must be switched on 20 minutes prior to beginning the adjustments!**
- **All adjustments must be performed at the “original" installation location (e.g. monitor trolley).**
- **The adjustments are performed in the “Screen Manager” menu. If the “Screen” menu is selected, see (General Remark Regarding Use of the OSD Menu / p. 9) to switch to the “Screen Manager”.**

Checking or Selecting the Fine Contrast Menu

To select the Fine Contrast menu, the Screen Manager must be blocked, see (General Remark Regarding Use of the OSD Menu / p. 9).

- Press one of the left/right arrow keys.
- The screen seen on the right is displayed in the lower left corner of the display.
- “**Custom**” must be selected.

  If not, select “Custom” with the arrow keys (right/left) and confirm with “Enter”.

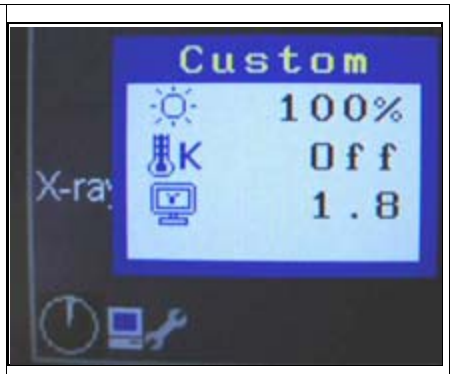

Fig. 6: EIZO R11 Custom menu

Reset / Auto Adjust to the Manufacturer Settings

- **Reset of Manufacturer Settings:**
  - To cancel keyboard blocking, see (General Remark Regarding Use of the OSD Menu / p. 9).
  - Select the “Screen Manager”.
  - Under: Others => Reset, perform a reset.
- **Performing Auto Adjust:**
  - Press the “Auto” front button, see (2/Fig. 2 / p. 9).
  - The message “If pressed again, the setting will be lost” appears.

    While this message is visible, press the “Auto” button again.

- **Gamma Setting:**
  - Screen Manager => Custom => set Gamma to 1.8.

Checking or Adjusting the Phase / Clock

Select the SMPTE test pattern

NOTE	**Auto Adjust must be performed using a predefined test image.** **To select the test image:** • **Service => Utilities => parameters => Explorer (enter).** • **Under C: Select => My Computers => Testimages => TFT Auto-configuration.**

- The 5 high-frequency line groups (Pos. 1) must be equally well visible!

  No lines or distortion may be visible.
- If the line groups are okay, proceed to (Adjusting brightness and contrast with the SMfit Spotmeter / p. 16).

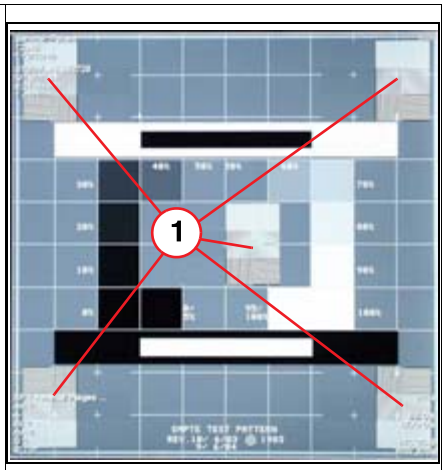

Fig. 7: SMPTE test pattern
Pos. 1 Resolution bars

- Adjustment of Phase / Clock (perform only if required).
  - Select the "**Screen Manager**", see (General Remark Regarding Use of the OSD Menu / p. 9).
  - Under "**Screen => Clock**", adjust the image width so that the image contents fill the entire panel screen and no image content is cut off.
  - Under "**Screen => Phase**", adjust the phase so that no horizontal lines are visible in the line groups.

Adjusting brightness and contrast with the SMfit Spotmeter

NOTE	**As a rule, no adjustments need to be performed.** **However a check of the values should be performed.** **The tolerance values must be observed.**

- Select the black/white test image:

  The service test images (test patient) must be downloaded.

  Open and log onto Syngo service. When this is done, the test patient will become visible in the browser.

  Open the test patient => open the black/white test image.
- Measurement values:
  - In the black area = < 1.0 cd/m^2.
  - In the white area = 200 cd/m^2 + 20/-80cd/m^2.

NOTE

120 cd/m^2 should result as the lower limit value.

With dual monitor operation, the difference between the two TFT monitors should be a maximum of +/- 10 cd/m^2.

If the value is lower than 120 cd/m^2, the monitor must be replaced.

- Adjustment of Brightness / Contrast Values (only if required).
  - Select the “**Screen Manager**”, see (General Remark Regarding Use of the OSD Menu / p. 9).
  - Under “**Color (Custom) => Brightness**” set the value in the black area to < 1cd/m^2 .
  - Under "**Color (Custom) => Gain**", set the value in the 100% field to 200 cd/m^2 +20/-80 cd/m^2 (all three colors must be evenly adjusted).
  - Repeat both measurements if the values are not reached.
  - Check: All steps in the test pattern (SMPTE), including the 5% and 95% fields must be detectable.
- The Screen Manager must be blocked again, see (General Remark Regarding Use of the OSD Menu / p. 9).

Chapter 4:

Path for selecting SMPTE test image corrected.

"ARCADIS Varic" changed to "ARCADIS Systems".